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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,222	10/14/2003	Lane C. Brooks	16820.P351	4107

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SENSATA TECHNOLOGIES, INC.
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EXAMINER

MOTSINGER, SEAN T

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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12/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/685,222

Applicant(s)

BROOKS ET AL.

Examiner

Sean Motsinger

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/4/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 13-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/4/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) ☐ Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:10/14/2003,6/17/2004,12/20/2004.

Response to Arguments/Amendments

1. The response to restriction filed On 10/4/2007 has been entered and made of record.
2. Claims 13-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected subcombination/species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/4/2007. The restriction is therefore made **FINAL**. Claims 1-12 are examined below.

Rejections Under 35 U.S.C. 112 First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The examiner is unable to locate in the specification is there described a device or method which compresses data and then decompresses the data. The only mention of anything similar is in paragraph 43 it says the data sent to the flash can be in decompressed form. However this does not disclose the method as described in the claim. In fact such a process seems to destroy the benefits of

applicant's application (i.e. smaller buffer size.) Therefore one of ordinary skill would not know how to make or use applicant's invention of claim 3.

Rejections Under 35 U.S.C. 112 Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See rejection Under 35 U.S.C. 112 first paragraph above. The same reasoning makes the claim unclear

Rejection Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,614,483 and the admitted prior art (hereinafter "APA") in applicants specification.

6. Re claim 1 the Lee discloses A method for in-stream compression of bytes of digital image sensor data, comprising: (a) capturing a scene and converting the captured scene into bytes of digital image sensor data (image sensor and extraction unit see figure 1 and column 3 lines 5-15)); (b) compressing the bytes of digital image sensor data (compressed column 3 lines lines 5-15); (c) storing the compressed bytes of digital image sensor data in a temporary memory (Buffer page 8 lines 40-50). Lee also discloses preparing for transmission it does not disclose where it should be transmitted.
7. The APA further discloses(d) transferring the bytes of digital image sensor data from the temporary memory to a permanent memory (PC card (page 2 lines 1). The motivation to combine is that there well known advantage to provide permanent storage of images. Therefore it would have been obvious to combine Lee with the APA
8. Re claim 2 the APA further discloses wherein the bytes of digital image sensor data transferred from the temporary memory to a permanent memory is compressed bytes of digital image sensor data (see page 1 lines 25-30).
9. Re claim 5 the APA further discloses wherein the permanent memory is FLASH memory (see page 2 line 9)

10. Re claim 6 Lee discloses The method as claimed in claim 1, wherein the compression of the bytes of digital image sensor data comprises: (b1) masking a specified number of least significant bits of a byte of digital image sensor data (dividing the values of by a selected loss value column 3 lines 10-15 note this has the effect of masking the LSBs) ; and (b2) encoding the masked bytes of digital image sensor data to generate compressed bytes of digital image sensor data (encoded column 3 lines 15-20).
11. Re claim 7 Lee discloses The method as claimed in claim 1, wherein the compression of the bytes of digital image sensor data comprises: (b1) subtracting alternate bytes of digital image sensor data to produce an entropy-reduced data model (differencing column 5 lines 24-30); and (b2) encoding the difference bytes of digital image sensor data to generate compressed bytes of digital image sensor data (column 3 lines 15-20).
12. Re claim 8 Lee discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) masking a specified number of least significant bits of a byte of digital image sensor data (dividing the values of by a selected loss value column 3 lines 10-15 note this has the effect of masking the LSBs); (b2) subtracting alternate bytes of digital image sensor data to produce an entropy-reduced data model subtracting alternate bytes of digital image sensor data to produce an entropy-reduced data model (differencing column 5 lines 24-30); and (b3) encoding

the difference bytes of digital image sensor data to generate compressed bytes of digital image sensor data (column 3 lines 15-20).

13. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee US 6,614,483 the APA and examiners official notice.
14. Re claim 3 Lee and the APA disclose all of the elements of claim 1, they do not disclose wherein the compressed bytes of digital image sensor data are decompressed before being transferred from the temporary memory to a permanent memory. However examiner is taking official notice that one of ordinary skill in the art would know how to decompress a digital image and store a decompressed version. One ordinary skill in would know how to perform such operations in conjunction with Lee. The results "storing a decompressed image" would be predictable. Therefore it would have been obvious to combine APA and Lee with common knowledge in the art
15. Re claim 4 Lee and the APA disclose all of the elements of claim 1 they do not disclose wherein the temporary memory is a static random access memory. However static Ram is notoriously well known in the art. On of ordinary skill in the art would know how to substitute static ram for dynamic RAM. Furthermore the results of such a substitution would be predictable. Therefore it would have been obvious to combine APA and Lee with common knowledge in the art

16. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and the APA in view of Yajima US 5809706.
17. Re claim 9 Lee and the APA disclose all of the elements of claim 1.
18. They do not disclose, wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data; (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions; (b3) multiplexing the distributed digital image sensor data; and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding.
19. However Yajima discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data (note each value is split into 4 streams each of which is processed separately see abstract and column 3 lines 47-57); (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions (see column 14 lines 19-50 note Yajima defines several distribution functions in tables and selects the appropriate distribution based on the state see tables 1 and 2.

Since the state is defined by the input for the individual bitplane and each bit plane is encoded separately, each bitplane will be processed by different distribution functions); (b3) multiplexing the distributed digital image sensor data (column 27 lines 30-40 note the operations are pipelined (multiplexed) and preformed by a single encoder); and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding (arithmetic encoding column 27 lines 35-40). It would be obvious to replace the entropy encoder in lee with the artimetic encoder in Yajima because arithmetic encoding "compresses image data efficiently " (see column 1 lines 64-69) Therefore it would have been obvious at the time of the invention to combine Lee and the APA with Yajima to reach the afore mentioned advantage.

20. Re claim 10 Lee further discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) masking a specified number of least significant bits of a byte of digital image sensor data(dividing the values of by a selected loss value column 3 lines 10-15 note this has the effect of masking the LSBs) ;
21. They do not disclose, wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data; (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions; (b3) multiplexing the distributed digital

image sensor data; and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding.

22. However Yajima discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data (note each value is split into 4 streams each of which is processed separately see abstract and column 3 lines 47-57); (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions (see column 14 lines 19-50 note Yajima defines several distribution functions in tables and selects the appropriate distribution based on the state see tables 1 and 2. Since the state is defined by the input for the individual bitplane and each bit plane is encoded separately, each bitplane will be processed by different distribution functions); (b3) multiplexing the distributed digital image sensor data (column 27 lines 30-40 note the operations are pipelined (multiplexed) and preformed by a single encoder); and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding (arithmetic encoding column 27 lines 35-40). It would be obvious to replace the entropy encoder in lee with the artimetic encoder in Yajima because arithmetic encoding "compresses image data efficiently " (see column 1 lines 64-69) Therefore it would have been obvious at the time of the invention to combine Lee and the APA with Yajima to reach the afore mentioned advantage.

23. Re claim 11 Lee further discloses (b1) subtracting alternate bytes of digital image sensor data to produce an entropy-reduced data model (differencing column 5 lines 24-30);
24. They do not disclose, wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data; (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions; (b3) multiplexing the distributed digital image sensor data; and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding.
25. However Yajima discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data (note each value is split into 4 streams each of which is processed separately see abstract and column 3 lines 47-57); (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions (see column 14 lines 19-50 note Yajima defines several distribution functions in tables and selects the appropriate distribution based on the state see tables 1 and 2. Since the state is defined by the input for the individual bitplane and each bit plane is

encoded separately, each bitplane will be processed by different distribution functions); (b3) multiplexing the distributed digital image sensor data (column 27 lines 30-40 note the operations are pipelined (multiplexed) and preformed by a single encoder); and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding (arithmetic encoding column 27 lines 35-40). It would be obvious to replace the entropy encoder in lee with the arithmetic encoder in Yajima because arithmetic encoding "compresses image data efficiently " (see column 1 lines 64-69) Therefore it would have been obvious at the time of the invention to combine Lee and the APA with Yajima to reach the afore mentioned advantage.

26. Re claim 12 Lee discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) masking a specified number of least significant bits of a byte of digital image sensor data(dividing the values of by a selected loss value column 3 lines 10-15 note this has the effect of masking the LSBs); (b2) subtracting alternate bytes of digital image sensor data to produce an entropy-reduced data model subtracting alternate bytes of digital image sensor data to produce an entropy-reduced data model (differencing column 5 lines 24-30).
27. They do not disclose, wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image

sensor data; (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions; (b3) multiplexing the distributed digital image sensor data; and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding.

28. However Yajima discloses wherein the compression of the bytes of digital image sensor data comprises: (b1) splitting a byte of digital image sensor data into a predetermined number of channels, each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data (note each value is split into 4 streams each of which is processed separately see abstract and column 3 lines 47-57); (b2) operating upon each channel of digital image sensor data with distinct cumulative distribution functions (see column 14 lines 19-50 note Yajima defines several distribution functions in tables and selects the appropriate distribution based on the state see tables 1 and 2. Since the state is defined by the input for the individual bitplane and each bit plane is encoded separately, each bitplane will be processed by different distribution functions); (b3) multiplexing the distributed digital image sensor data (column 27 lines 30-40 note the operations are pipelined (multiplexed) and performed by a single encoder); and (b4) encoding the multiplexed digital image sensor data using arithmetic compression encoding (arithmetic encoding column 27 lines 35-40). It would be obvious to replace the entropy encoder in lee with the arithmetic encoder in Yajima because arithmetic encoding "compresses image data efficiently " (see column 1 lines 64-69) Therefore it would have been obvious at the time of the

invention to combine Lee and the APA with Yajima to reach the afore mentioned advantage.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Motsinger
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SUPERVISORY PATENT EXAMINER